

WHAT IS CLAIMED IS:

1. A semiconductor memory device comprising:
a memory array including at least a first area and
a second area, which stores cell data;
5 a data input circuit located closer to the first
area than the second area, to which the cell data is
input;
an error correction circuit which generates parity
data for error correction from the cell data input to
10 the data input circuit; and
a control circuit which stores the parity data in
the first area.
2. The semiconductor memory device according to
claim 1, wherein the memory array includes a first
15 memory unit and a second memory unit having the first
area and the second area, respectively.
3. The semiconductor memory device according to
claim 1, wherein the memory array includes a first data
line connected to the first area and a second data line
20 connected to the second area.
4. The semiconductor memory device according to
claim 3, further comprising a switch between the first
data line and the second data line.
5. The semiconductor memory device according to
25 claim 1, wherein the memory array includes a common
data line connected to both the first area and the
second area.

6. A semiconductor memory device comprising:

a memory array including at least a first area and
a second area;

5 a data input circuit located closer to the first
area than the second area, cell data to be stored in
the memory array being input to the data input circuit;

an error correction circuit which generates parity
data for error correction from the cell data input to
the data input circuit; and

10 a control circuit which stores the parity data in
the first area and store the cell data in the second
area.

7. The semiconductor memory device according to
claim 6, wherein the control circuit stores both the
15 parity data and the cell data in the first area and
store the cell data not including the parity data in
the second area.

8. The semiconductor memory device according to
claim 6, wherein the memory array includes at least
20 a first memory unit and a second memory unit each
having the first area and the second area.

9. The semiconductor memory device according to
claim 8, wherein the first memory unit has a first data
line connected to the first area and a second data line
25 connected to the second area, and the second memory
unit has a first data line connected to the first area
and a second data line connected to the second area.

10. The semiconductor memory device according to claim 9, wherein the first data line and the second data line are electrically connected to or disconnected from each other by a selection switch.

5 11. The semiconductor memory device according to claim 8, wherein the first memory unit and the second memory unit each have a common data line connected to both the first area and the second area.

10 12. The semiconductor memory device according to claim 1, wherein the memory array includes at least a first memory unit and a second memory unit each having the first area and the second area, and the semiconductor memory device further comprises a switching circuit which stores the parity data in the first area
15 of one of the first memory unit and the second memory unit.

13. The semiconductor memory device according to claim 1, further comprising a data compensating circuit which error-corrects the cell data stored in the memory
20 array using the parity data stored in the first area.

14. The semiconductor memory device according to claim 1, wherein a size of the first area is equal to or smaller than that of the second area.

25 15. The semiconductor memory device according to claim 6, wherein the memory array includes at least a first memory unit and a second memory unit each having the first area and the second area, and

the semiconductor memory device further comprises a switching circuit which stores the parity data in the first area of one of the first memory unit and the second memory unit.

5 16. The semiconductor memory device according to claim 6, further comprising a data compensating circuit which error-corrects the cell data stored in the memory array using the parity data stored in the first area.

10 17. The semiconductor memory device according to claim 6, wherein a size of the first area is equal to or smaller than that of the second area.